



(1) GENERAL INFORMATION

(i) APPLICANT: Koizumi, Satoshi
Sasaki, Katsutoshi
Endo, Tetsuo
Tabata, Kazuhiko
Ozaki, Akio

(ii) TITLE OF INVENTION: Processes for Producing Sugar
Nucleotides

and Complex Carbohydrates

(iii) NUMBER OF SEQUENCES: 27 ✓

(iv) CORRESPONDENCE ADDRESS:

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(B) STREET: 30 Rockefeller Plaza
(C) CITY: New York
(D) STATE: New York
(E) COUNTRY: USA
(F) ZIP: 10112-3801

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Diskette, 3.50 inch, 1.4Mb storage
(B) COMPUTER: pc
(C) OPERATING SYSTEM: MS-DOS
(D) SOFTWARE: PatentIn ver. 2.0

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: 09/068,528
(B) FILING DATE: 13-MAY-1998
(C) CLASSIFICATION: 536

(viii) ATTORNEY/AGENT INFORMATION:

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(C) REFERENCE/DOCKET NUMBER: 766.20

(ix) TELECOMMUNICATION INFORMATION:

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(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 31 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: synthetic DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

GGAGAAAGCT TATGGCTGCC ATTAATACGA A

31

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

(A)LENGTH: 30 base pairs
(B)TYPE: nucleic acid
(C)STRANDEDNESS: single
(D)TOPOLOGY: linear
(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:2:
AACACGGATC CGGATGTTAC TTCTTAATGC 30

(2)INFORMATION FOR SEQ ID NO:3:
(i)SEQUENCE CHARACTERISTICS:
(A)LENGTH: 28 base pairs
(B)TYPE: nucleic acid
(C)STRANDEDNESS: single
(D)TOPOLOGY: linear
(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:3:
ATGGAGGATC CTGCTCTGTA TACCGTCT 28

(2)INFORMATION FOR SEQ ID NO:4:
(i)SEQUENCE CHARACTERISTICS:
(A)LENGTH: 20 base pairs
(B)TYPE: nucleic acid
(C)STRANDEDNESS: single
(D)TOPOLOGY: linear
(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:4:
TGCTGGTCGA CCTGCGCTTG 20

(2)INFORMATION FOR SEQ ID NO:5:
(i)SEQUENCE CHARACTERISTICS:
(A)LENGTH: 31 base pairs
(B)TYPE: nucleic acid
(C)STRANDEDNESS: single
(D)TOPOLOGY: linear
(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:5:
AAGGAAAGCT TATGACGCAA TTTAATCCCG T 31

(2)INFORMATION FOR SEQ ID NO:6:
(i)SEQUENCE CHARACTERISTICS:
(A)LENGTH: 20 base pairs
(B)TYPE: nucleic acid
(C)STRANDEDNESS: single
(D)TOPOLOGY: linear
(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:6:

GCAAAGTTAA CAGTCGGTAC

20

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 31 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: synthetic DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

TCAGGAAGCT TATGTTGAAT AATGCTATGA G

31

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 27 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: synthetic DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

TCTCCGGATC CCATGTGACC GGGTTAG

27

(2) INFORMATION FOR SEQ ID NO:9:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 28 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: synthetic DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

TCTAAATCGA TGCAGACAAA GGACAAAG

28

(2) INFORMATION FOR SEQ ID NO:10:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 27 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: synthetic DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

TTGCAGGATC CTCGTAGGCC TGATAAG

27

(2) INFORMATION FOR SEQ ID NO:11:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C)STRANDEDNESS: single
(D)TOPOLOGY: linear
(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:11:
TGATATCCGC TCCCTTTCCG 20

(2)INFORMATION FOR SEQ ID NO:12:
(i)SEQUENCE CHARACTERISTICS:
(A)LENGTH: 26 base pairs
(B)TYPE: nucleic acid
(C)STRANDEDNESS: single
(D)TOPOLOGY: linear
(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:12:
ACAGCGGATC CGATGTGTTC GCTGAG 26

(2) INFORMATION FOR SEQ ID NO:13:
(i)SEQUENCE CHARACTERISTICS:
(A)LENGTH: 29 base pairs
(B)TYPE: nucleic acid
(C)STRANDEDNESS: single
(D)TOPOLOGY: linear
(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:13:
ACAGCAAGCT TTTGACTTTA GCGGAGCAG 29

(2)INFORMATION FOR SEQ ID NO:14:
(i)SEQUENCE CHARACTERISTICS:
(A)LENGTH: 29 base pairs
(B)TYPE: nucleic acid
(C)STRANDEDNESS: single
(D)TOPOLOGY: linear
(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:14:
GAGTTGATC CCGATATAAA AGGAAGGAT 29

(2)INFORMATION FOR SEQ ID NO:15:
(i)SEQUENCE CHARACTERISTICS:
(A)LENGTH: 25 base pairs
(B)TYPE: nucleic acid
(C)STRANDEDNESS: single
(D)TOPOLOGY: linear
(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:15:
TTTTTAAGCT TCATTTATCA AGAGT 25

(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: synthetic DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

TTTTTGATAT CCCCAATGCT GGGGGTTTTT G

31

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 base pairs
- (b) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: synthetic DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

CGTCAAAGCT TAAATGATAT TCGGGGATAA T

31

(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 25 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: synthetic DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

AGGGAGGATC CGACATTACT CGTTC

25

(2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 33 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: synthetic DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

CCGCAAGATC TCGTAAAAAG GGTATCGATA AGC

33

(2) INFORMATION FOR SEQ ID NO:20:

(i) SEQUENCE CHARACTERISTICS

- (A) LENGTH: 27 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:20:
TTGGGAAGCT TCCGGCAAAT GTGGTTT 27

(2) INFORMATION FOR SEQ ID NO:21:
(i)SEQUENCE CHARACTERISTICS:
 (A)LENGTH: 25 base pairs
 (B)TYPE: nucleic acid
 (C)STRANDEDNESS: single
 (D)TOPOLOGY: linear
(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:21:
ATAAACTCGA GAGAGACAAG CGGAG 25

(2)INFORMATION FOR SEQ ID NO:22:
(i)SEQUENCE CHARACTERISTICS:
 (A)LENGTH: 27 base pairs
 (B)TYPE: nucleic acid
 (C)STRANDEDNESS: single
 (D)TOPOLOGY: linear
(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:22:
TATTATCGAT GAATTAATAA TTCATAG 27

(2)INFORMATION FOR SEQ ID NO:23:
(i)SEQUENCE CHARACTERISTICS:
 (A)LENGTH: 25 base pairs
 (B)TYPE: nucleic acid
 (C)STRANDEDNESS: single
 (D)TOPOLOGY: linear
(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:23
CTCTGGATCC AGTTACGTAT AATAT 25

(2)INFORMATION FOR SEQ ID NO:24:
(i)SEQUENCE CHARACTERISTICS:
 (A)LENGTH: 30 base pairs
 (B)TYPE: nucleic acid
 (C)STRANDEDNESS: single
 (D)TOPOLOGY: linear
(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:24:
CGGCAAGCTT ATTGTGCCTT TCCAATAAAA 30

(2)INFORMATION FOR SEQ ID NO:25:
(i)SEQUENCE CHARACTERISTICS:

(A)LENGTH: 28 base pairs
(B)TYPE: nucleic acid
(C)STRANDEDNESS: single
(D)TOPOLOGY: linear
(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:25:
ACTTGGATCC CCGTCAATAA ATCTTGCG 28

(2) INFORMATION FOR SEQ ID NO:26:
(i)SEQUENCE CHARACTERISTICS:
(A)LENGTH: 30 base pairs
(B)TYPE: nucleic acid
(C)STRANDEDNESS: single
(D)TOPOLOGY: linear
(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:26:
GGTAAAGCTT ATGCAAAACC ACGTTATCAG 30

(2)INFORMATION FOR SEQ ID NO:27:
(i)SEQUENCE CHARACTERISTICS:
(A)LENGTH: 29 base pairs
(B)TYPE: nucleic acid
(C)STRANDEDNESS: single
(D)TOPOLOGY: linear
(ii)MOLECULE TYPE: synthetic DNA
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:27:
AAACGGATCC TTATTGGAAA GGCACAATA 29